LIVERMORE VALLEY OPEN CAMPUS

Fostering Collaborative Solutions to Tough Problems

To foster the collaborations needed to resolve tough national and industry challenges, Lawrence Livermore National Laboratory and Sandia National Laboratories have created a new venue for public-private innovation: the Livermore Valley Open Campus (LVOC).

At LVOC, private sector partners can access the rich resources of the national labs and work closely with lab experts on problems that can bolster industry, while strengthening national security and economic well-being.

Problems with Science and Technology

Below are just a few examples of the collaborative power of LVOC.

BIOTECH COLLABORATION CENTER

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Partners at the Biotech Collaboration Center are developing medical and biosecurity solutions, such as tools for rapid diagnosis of disease and the science needed to produce practical biofuels. A project to diagnose the sources of contamination of algal ponds, for example, promises to help overcome a barrier to biofuels production.

COMBUSTION RESEARCH FACILITY

Contact: crf@sandia.gov

For decades, the Combustion Research Facility (CRF) has been delving into the complexities of combustion to provide the auto industry the science basis for improving engines—often working side-by-side with industry researchers. According to a top U.S. auto industry executive, every engine made today is cleaner and more efficient due to the CRF's work.

CYBERSECURITY TECHNOLOGY RESEARCH LABORATORY

Contact: lvoc@sandia.gov

The Cybersecurity Technologies Research Laboratory (CTRL) works with experts from across the country to advance the science of cybersecurity and develop, test, and implement cybersecurity approaches in real-world situations. The tight collaboration between industry and the labs helps ensure that powerful and advanced cybersecurity tools are applied to the toughest challenges faced by industry.

HIGH PERFORMANCE COMPUTING INNOVATION CENTER

Contact: compute@hpcinnovationcenter.com

Industry collaborators connect with lab researchers at the High Performance Computing Innovation Center (HPCIC) to develop the tools and codes needed to solve an array of issues. One partnership improved the performance of Energy Exemplar's energy market model a thousand-fold and another enabled IBM to produce the medical tool Cardioid, the most detailed simulation yet of the functioning human heart.

SPACE SITUATIONAL AWARENESS LAB

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Offering such tools as research telescopes, a portable robotic mount for deployment at austere sites, and a testbed for developing advanced telescopes, the Space Situational Awareness (SSA) Lab develops new methods for characterizing space objects. A current project is demonstrating that many small satellites (≤ 250 kg) can deliver missions and performance comparable to today's large and more expensive satellites.

BUILDING TOMORROW'S SCIENTISTS

Another key LVOC thrust is sharing its latest findings with students and educators to help build the next generation of skilled scientists.

CENTER FOR CYBER DEFENDERS & CYBER TECHNOLOGIES ACADEMY

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The Center for Cyber Defenders (CCD) prepares college interns for cybersecurity careers in industry and government by providing hands-on training and opportunities to help secure a national lab information system. Targeting the potential of younger students, the Cyber Technologies Academy provides free classes for high school students intrigued by computer science and cybersecurity.

DISCOVERY CENTER

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Educating more than 8,000 visitors annually, the Discovery Center offers hands-on displays and interactive demonstrations to increase awareness of national lab science and technology programs. For some visitors, including thousands of elementary school children, the Discovery Center is a gateway that can lead in many directions—such as the pursuit of further science education and careers.

TEACHER RESEARCH ACADEMY

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The Teacher Research Academy (TRA) offers professional development for middle school, high school, and community college faculty in such fast-moving science disciplines as biotechnology, fusion, astrophysics, and computer simulation. TRA's curriculum prepares teachers to provide their own students enhanced instruction, as well as an understanding of how science can be applied in the real world.

Collaborate with LVOC

We invite your queries about LVOC. To learn more about collaborations, please visit: [website collaboration page]

For more information about the Livermore Valley Open Campus, contact one of our representatives or visit lvoc.org

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